

- 1 1. A method for making a connection for composite pipe comprising:
2 attaching a connector having at least one trap to a liner portion of a segment of
3 composite pipe, the pipe comprising a plurality of filament fibers wound around the liner;
4 winding the plurality of filament fibers across the connector, wherein tension is
5 continuously maintained on the filament fibers across the at least one trap;
6 compressing the plurality of filament fibers over the at least one trap; and
7 curing a binder which impregnates the filament fiber.
- 1 2. The method as defined in claim 1 wherein the fibers initially bridge the at least
2 one trap.
- 1 3. The method as defined in claim 1 wherein the compressing comprises wrapping
2 the fibers proximate the at least one trap with a fiber hoop wrap.
- 1 4. The method as defined in claim 3 wherein the fiber hoop wrap comprises a
2 material having a negative coefficient of thermal expansion.
- 1 5. The method as defined in claim 1 further comprising wrapping the trap area with
2 heat shrinkable tape and heating the tape.
- 1 6. The method as defined in claim 2 wherein the connector comprises a plurality of
2 traps, the filament fibers wound under tension so that each of the traps is initially bridged
3 by the filament fibers.
- 1 7. The method as defined in claim 6 further comprising compressing the filament
2 fibers in each of the traps prior to curing the binder.
- 1 8. The method as defined in claim 7 wherein the compressing comprises wrapping
2 the fibers in each of the traps with a fiber hoop wrap.

- 1 9. The method as defined in claim 6 wherein each of the hoop wraps has an elastic
2 modulus related to its position with respect to an end of the connector.
- 1 10. The method as defined in claim 6 wherein a flank angle of each trap is related to
2 the position of each trap with respect to an end of the connector.
- 1 11. The method as defined in claim 6 wherein a depth of each trap is related to the
2 position of each trap with respect to an end of the connector.
- 1 11 The method as defined in claim 6 wherein a wall thickness of the connector
2 below each trap is related to the position of each trap with respect to the end of the
3 connector.
- 1 12. The method as defined in claim 6 wherein a width of each trap is related to the
2 position of each trap with respect to an end of the connector.
- 1 13. An connector for joining a segment of composite pipe comprising:
2 an end connector having at least one fiber trap on an outer surface thereof, the end
3 connector attached to a liner portion of the segment of composite pipe;
4 fibers forming an outer surface of the segment of composite pipe, the fibers
5 wound around the at least one trap under tension; and
6 a binder which impregnates the fibers, the tension being maintained on the fibers
7 in the trap during cure of the binder.
- 1 14. The connector as defined in claim 13 wherein the further comprises a fiber hoop
2 wrap wound around the fibers in the trap to compress the fibers therein.
- 1 15. The connector as defined in claim 14 wherein the fiber hoop wrap comprises a
2 material having a negative coefficient of thermal expansion.

- 1 16. The connector as defined in claim 13 further comprising heat shrinkable tape
2 wrapped in the trap area.
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2 17. The connector as defined in claim 13 wherein the connector comprises a plurality
3 of traps.
- 1 18. The connector as defined in claim 17 wherein the fibers in each of the traps is
2 covered with a fiber hoop wrap.
- 1 19. The connector as defined in claim 17 wherein each of the hoop wraps has an
2 elastic modulus related to its position with respect to an end of the connector.
- 1 20. The connector as defined in claim 17 wherein a flank angle of each trap is related
2 to the position of each trap with respect to an end of the connector.
- 1 21. The connector as defined in claim 17 wherein a depth of each trap is related to the
2 position of each trap with respect to an end of the connector.
- 1 22. The connector as defined in claim 12 wherein a connector wall thickness below
2 each of the traps is related to a position of each trap with respect to the end of the
3 connector.
- 1 23. The connector as defined in claim 17 wherein a width of each trap is related to the
2 position of each trap with respect to an end of the connector.